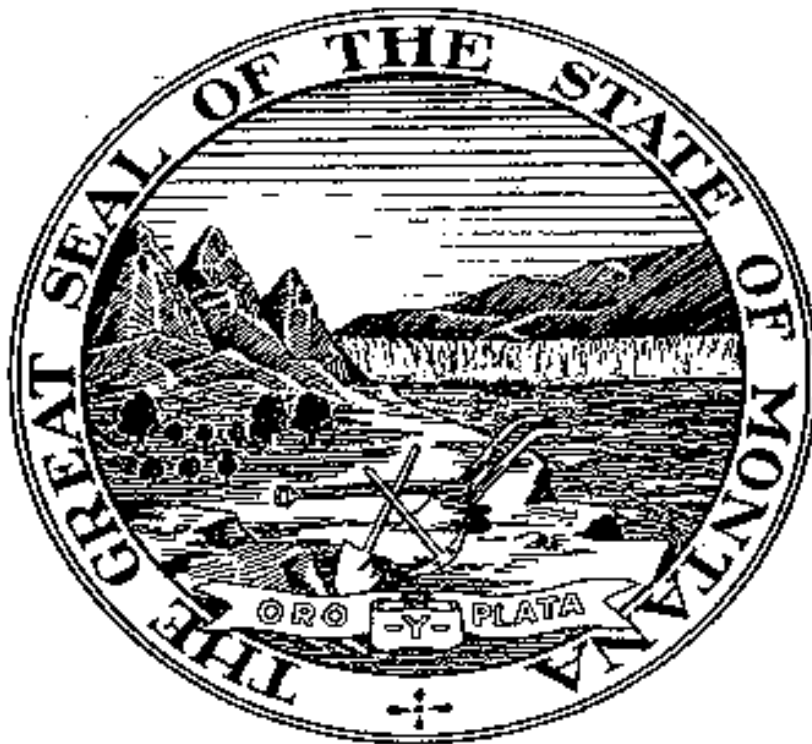


Acetylene Cutting and Welding

Safe Operating Procedures

Occupational Safety and Health Bureau



Montana Department of Labor & Industry

PREPARED FOR MONTANA EMPLOYERS

by the

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ACETYLENE CUTTING AND WELDING SAFE OPERATING PROCEDURES

Cylinders, cylinder valves, couplings, regulators, hose, and apparatus must be kept free from oily or greasy substances.

Oxygen cylinders or apparatus must not be handled with oily hands or gloves.

A jet of oxygen must never be permitted to strike an oily surface, greasy clothes, or enter a fuel oil or other storage tank.

When transporting cylinders by a crane or derrick, a cradle, boat, or suitable platform shall be used. Slings or electric magnets shall not be used for this purpose.

Valve-protection caps, where cylinder is designed to accept a cap, must always be in place.

Cylinders must not be dropped or struck or permitted to strike each other violently.

Valve-protection caps must not be used for lifting cylinders from one vertical position to another.

Bars must not be used under valves or valve-protection caps to pry cylinders loose when frozen to the ground or otherwise fixed; the use of warm (not boiling) water is recommended.

Valve-protection caps are designed to protect cylinder valves from damage.

Unless cylinders are secured on a special truck, regulators must be removed and valve-protection caps, when provided for, must be put in place before cylinders are moved.

Cylinders not having fixed hand wheels must have keys, handles, or nonadjustable wrenches on valve stems while these cylinders are in service. In multiple cylinder installations only one key or handle is required for each manifold.

Cylinder valves must be closed before moving cylinders.

Cylinder valves must be closed when work is finished.

Valves of empty cylinders must be closed.

Cylinders must be kept far enough away from the actual welding or cutting operation so that sparks, hot slag, or flame will not reach them, or fire-resistant shields must be provided.

Cylinders must not be placed where they might become part of an electric circuit. Contacts with third rails, trolley wires, etc., must be avoided. Cylinders must be kept away from radiators, piping systems, layout tables, etc., that may be used for grounding electric circuits such as for arc welding machines. Any practice such as the tapping of an electrode against a cylinder to strike an arc is prohibited.

Cylinders must never be used as rollers or supports, whether full or empty.

The numbers and markings stamped into cylinders must not be tampered with.

No person, other than the gas supplier, is to attempt to mix gases in a cylinder. No one, except the owner of the cylinder or person authorized by him, is permitted to refill a cylinder.

No one is permitted to tamper with safety devices in cylinders or valves.

Cylinders must not be dropped or otherwise roughly handled.

Unless connected to a manifold, oxygen from a cylinder must not be used without first attaching an oxygen regulator to the cylinder valve. Before connecting the regulator to the cylinder valve, the valve must be opened slightly for an instant and then closed.

Always stand to one side of the outlet when opening the cylinder valve.

A hammer or wrench must not be used to open cylinder valves. If valves cannot be opened by hand, the supplier must be notified.

Cylinder valves must not be tampered with nor should any attempt be made to repair them. If trouble is experienced, the supplier should be sent a report promptly indicating the character of the trouble and the cylinder's serial number. Supplier's instructions as to its disposition must be followed.

Complete removal of the stem from a diaphragm-type cylinder valve must be avoided.

Fuel-gas cylinders must be placed with valve end up whenever they are in use. Liquefied gases must be stored and shipped with the valve end up.

Cylinders must be handled carefully. Rough handling, knocks, or falls are liable to damage the cylinder, valve or safety devices and cause leakage.

Before connecting a regulator to a cylinder valve, the valve must be opened slightly and closed immediately. The valve must be opened while standing to one side of the outlet; never in front of it. Never crack a fuel-gas cylinder valve near other welding work or near sparks, flame, or other possible sources of ignition.

Before a regulator is removed from a cylinder valve, the cylinder valve must be closed and the gas released from the regulator.

Nothing is to be placed on top of an acetylene cylinder when in use which may damage the safety device or interfere with the quick closing of the valve.

If cylinders are found to have leaky valves or fittings which cannot be stopped by closing of the valve, the cylinders must be taken outdoors away from sources of ignition and slowly emptied.

A warning should be placed near cylinders having leaking fuse plugs or other leaking safety devices not to approach them with a lighted cigarette or other source of ignition. Such cylinders should be plainly tagged; the supplier should be promptly notified and his instructions followed as to their return.

Safety devices must not be tampered with.

Fuel-gas must never be used from cylinders through torches or other devices equipped with shutoff valves without reducing the pressure through a suitable regulator attached to the cylinder valve or manifold.

The fuel gas cylinder valve must always be opened slowly.

An acetylene cylinder valve must not be opened more than one and one-half turns of the spindle, and preferably no more than three-fourths of a turn.

Where a special wrench is required it must be left in position on the stem of the valve while the cylinder is in use so that the fuel-gas flow can be quickly tuned off in case of emergency. In the case of manifolded or coupled cylinders at least one such wrench must always be available for immediate use.